

## REMARKS

No new matter has been added in amending the specification (including the drawings) or the claims. Pointing the line from reference numeral “14” to the dotted line in layer 10 of FIG. 1A finds support in paragraphs 0039 and 0040 of published application US20040169966. For consistency, the lines from reference numerals “12” and “14” in FIG. 2 are simply placed in the same positions as they appear in FIG. 1A. “ABS” [i.e., airbearing surface] is found in paragraph 0042 of published application US20040169966. On entry of the amendments, an ABS of FIG. 1B is indicated by reference numeral “60ABS.” Furthermore, that reference number “44” does not appear on replacement sheet 1/6 is consistent with the absence of reference number “44” in the text of the specification. In response to a potential ambiguity in the placement of reference number “40” in FIG. 2 (brought to light during the telephonic interview of January 11), Applicants place reference number “40” in FIG. 2 of the “Replacement sheet” in the same position as in FIG. 1A (and, consistent with this re-positioning, remove reference number “40” from FIG. 1B). Other amendments to the specification (including the drawings) find support, among other places, in parent application Serial No. 10/317,878, which the present application incorporates by reference in its entirety in paragraph 0001.

### Office Action: Objections to the Drawings

Applicants believe that objections to the drawings noted in the Office Action (*i.e.*, objections in addition to Applicants’ needing to label appropriately new drawing sheet 1/6 as a “Replacement sheet”) were obviated during the interview of January 11. For example, the Office Action stated an objection to FIG. 1B as being inconsistent with at least FIG. 2. Applicants believe the interview resolved this objection because, in the context of FIG. 1B representing a “side-on view” of a cross-section taken along line A-A of FIG. 1A (as noted in the application at paragraph 0018 on page 5, *i.e.*, at paragraph 0034 of published application US20040169966), Applicants understood FIG. 1B as no longer being viewed as inconsistent with FIG. 2 [or FIG. 1A]. As another example, the Office Action stated an objection about reference characters “40” and “62” both being used to designate a longitudinal bias layer stack, and reference characters “42” and “64” both being used to designate a lead layer stack. The interview allowed Applicants to distinguish MR devices from GMR devices, and Applicants believe this distinction resolved the objection. That is, reference characters “40” and “42” are used to designate layer stacks in

the MR device of FIG. 1A, but reference characters “62” and “64” are used to designate layer stacks in different devices (*i.e.*, the GMR devices of FIGS. 4A & 4B). As a further example, the Office Action stated an objection that “the first and second conductive layers are not the same layer” (as claim 1 had recited) may not be shown in the drawings. Applicants do not concede this objection, but Applicants have amended claim 1 to remove unnecessary limitations. In removing the claim element “the first and second conductive layers are not the same layer,” this objection was obviated. Finally, Applicants have introduced consistency in this application by amending the specification at paragraphs 0023–0025 and 0033 in order to incorporate explicitly paragraphs from parent application serial no. 10/317,878 that had differed in wording from this application. Parent application serial no. 10/317,878 remains incorporated by reference in its entirety in the present application. Applicants note that after paragraph 0011 of the present application [*i.e.*, paragraph 0011 of the substitute specification copies], the paragraphs of present application serial no. 10/792,078 and parent application serial no. 10/317,878 differ by one because the present application was filed with the following paragraph, which was not present in parent application serial no. 10/317,878:

[0012] In accordance with one aspect of the present invention, a magnetoresistive device comprising:

- a magnetoresistive layer;
- a soft-adjacent magnetic transverse bias layer (SAL);
- an insulating layer arranged between said magnetoresistive layer and said magnetic transverse bias layer;
- a conductive layer contacting electrically both said magnetoresistive layer and 15 said magnetic bias layer at at least one end region of said SAL element.

#### **Office Action: Claim Rejections**

In amending claim 1, Applicants are simply removing unnecessary limitations. That is, in claiming the “magnetic recording head . . . [having] an insulator contact electrically isolating said second end of said SAL from said second end of the magnetoresistive layer,” Applicants are claiming a magnetic recording head that is novel and nonobvious over the cited references, including Koga et al. (US5442507). As Applicants were able to note during the interview of January 11, the SAL tends to float electrically, which causes electric pop noise. Connecting one

end of the SAL to the magnetoresistive layer ties the SAL to the magnetoresistive layer, thus avoiding the floating SAL problem. Electrically isolating the other end of the SAL from the magnetoresistive layer prevents charges from accumulating on the SAL, because no current flows through the SAL. Neither Koga et al. (US5442507) nor any other art of record discloses this claimed arrangement for eliminating electric pop noise. Support for this amendment is found, among other places, in FIG. 2 and in paragraphs 0027 and 0039 of the substitute specification [*i.e.*, paragraphs 0043 and 0068 of published application US20040169966].

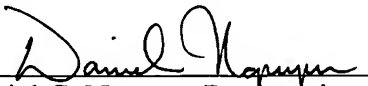
### CONCLUSION

Applicants have responded to all issues raised in the Office Action mailed August 10, 2005. Applicants believe that all pending claims are in a condition for issuance and respectfully request issuance of a Notice of Allowance.

Applicants' undersigned representative earnestly requests a call at 713-951-3354 should an issue that may be addressed telephonically arise concerning this application.

Dated: February 7, 2006

Respectfully submitted,

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### AMENDMENTS TO THE DRAWINGS

In FIG. 1A of drawing sheet 1/6, please point the line from reference numeral “14” to the dotted line within layer 10 (e.g., in the same way that the line from reference numeral “12” points to the dotted line in layer 10 in FIG. 1A).

In FIG. 1B of drawing sheet 1/6, please add “ABS” to reference numeral “60” and delete reference numeral “40.”

In FIG. 2 of drawing sheet 1/6, please delete reference number “44” and move reference number “40” in FIG. 2 to the same position that it occupies in FIG. 1A. Also please end the lines from reference numerals “12” and “14” in FIG. 2 in the respective side regions of MR element 10 (as the lines from reference numerals “12” and “14” end in respective side regions of MR element 10 in FIG. 1A)..

Annotated versions of FIGS. 1A, 1B and 2 (with the changes indicated in red ink) are attached in Appendix 2. A replacement sheet (labeled “Replacement sheet” and containing amended FIGS. 1A, 1B and 2) for drawing sheet 1/6 is attached in Appendix 3.

In view of the substitute specifications that Applicants are submitting with this Response, Applicants also submit all six drawing sheets for completeness.

Applicants again thank Examiner Miller for the telephonic interview of January 11, 2006. Applicants believe that entry of the above-noted “Replacement sheet” for drawing sheet 1/6 completes the remaining needed responses to objections to the drawings; other objections noted in the Office Action were obviated during the interview (see “Office Action: Objections to the Drawings” of the REMARKS section below).

**APPENDIX 2: Annotated Sheet 1/6**

1/6

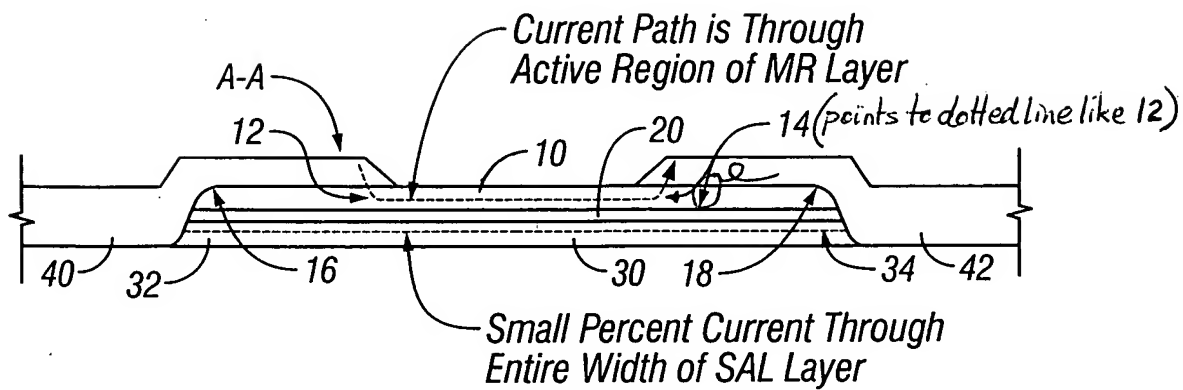


FIG. 1A

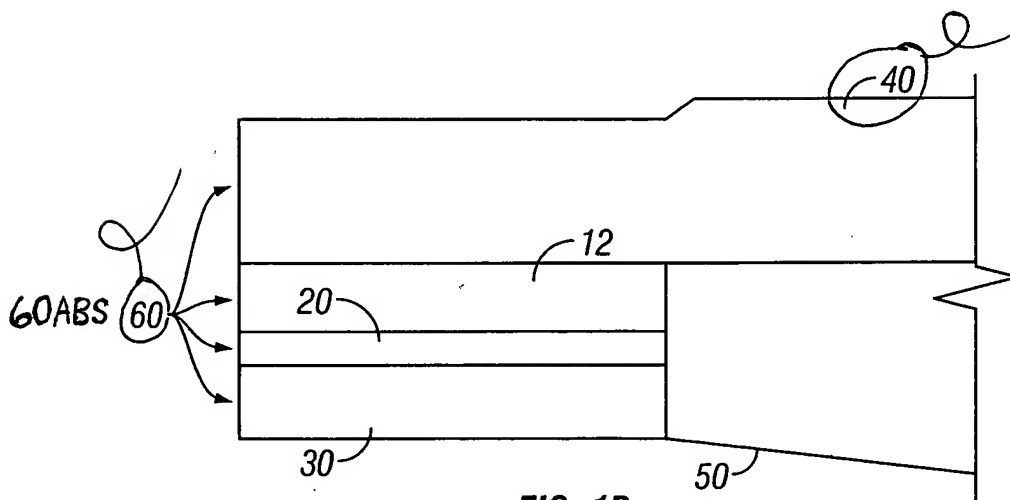


FIG. 1B

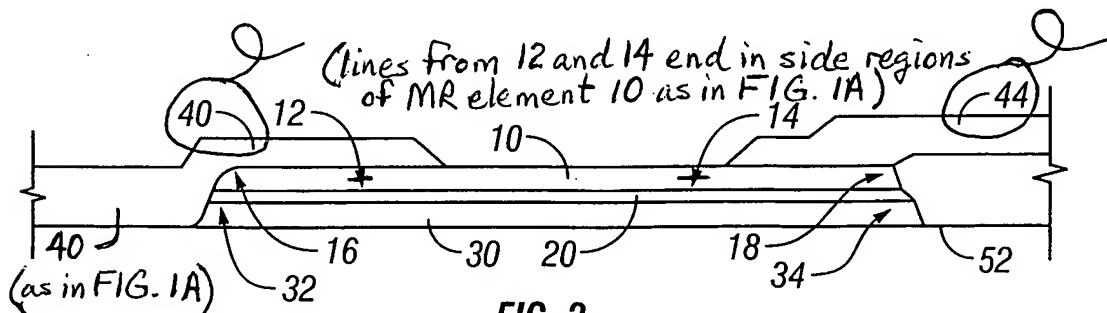


FIG. 2